



SUPER SAX®



BRUSHLESS SERVOMOTOR

SUPER SAX® (SSax)

Complete line of Sinusoidal Brushless Servomotors (6 poles) for use with sinusoidal and trapezoidal AXOR's Drives (Mcb, Mcb Plus, McbNet, MiniMAGNUM and MAGNUM 400). Torque ranges from 0.35 to 30 Nm.

STANDARD FEATURES

- ✓ Sinusoidal B.E.M.F.
- ✓ Excellent torque/inertia ratio
- ✓ Permanent rare earth magnets (NdFeB)
- ✓ Very low fluctuations of torque at minimum speed
- ✓ High overload capacity (4 x stall torque)
- ✓ Protection class IP54
- ✓ Five different Nominal Voltages (44, 95, 145, 220 and 380 VAC)
- ✓ Two different feedback systems: Encoder 2048P/Rev, 5V LD or 2 poles resolver
- ✓ All motors with flying screw connectors
- ✓ Operating temperature 0 ÷ 40°C

OPTIONS

- ✓ Holding brakes
- ✓ Protection class: IP65, IP65S (with shaft sealing)
- ✓ Special flanges and shafts available upon request
- ✓ Flying leads instead of screw connectors
- ✓ JH High Rotor Inertia
- ✓ Custom mountings available



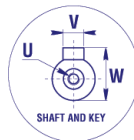
Typical applications are: Axis Controlled by CNC, Strongly Intermittent Motor Duties, Machine Tools, Textile and Graphic Machines, Robots, Transfer Lines, Manufacturing, Packaging and Wood Working Machines.

TORQUE RANGE

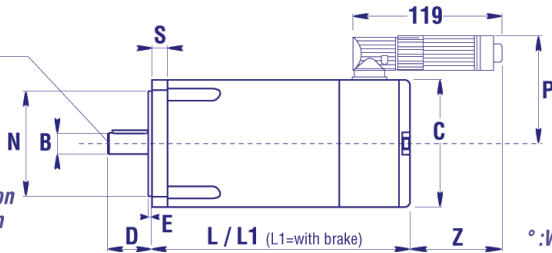
SERIES		SSAX 55			SSAX 75				SSAX 100				SSAX 140						
SIZE		S	M	L	XS	S	M	L	S	M	L	XL	XS	S	M	L	XL	XXL	
Mo	stall Torque ($\Delta t=100^\circ\text{C}$) (Nm)	0.35	0.8	1.2	1.1	1.6	2.7	3.8	3.2	5.2	7.5	8.5	9.5	13.5	17.8	22	26	30	
Mpk	Peak Stall Torque (Nm)	1.4	3.2	4.8	4.5	6.4	10.8	15.2	12.8	21	30	34	38	55	72	90	105	120	
380 VAC	Stall Ac Current	Io (Arms)	0.7	1.4	1.5	1.1	1.5	2.4	3.5	2.2	3.4	4.8	5.5	6.3	8.7	11.5	14	16.5	19
Drive's main voltage	Rated speed	N_n (Rpm)	6000	6000	5000	4000	4000	4000	4000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	Stall DC Current	Io^{DC} (A _{DC})	0.9	1.8	1.9	1.3	1.9	3.1	4.4	2.8	4.4	6	7	8	11	14.6	—	—	—
220 VAC	Stall Ac Current	Io (Arms)	0.7	1.4	2.1	1.8	2.6	4.3	6	3.7	5.9	8	9.3	11	15	19.8	16	—	—
Drive's main voltage	Rated speed	N_n (Rpm)	4000	4000	4000	4000	4000	4000	4000	3000	3000	3000	3000	3000	3000	3000	2000	—	—
	Stall DC Current	Io^{DC} (A _{DC})	0.9	1.8	2.7	2.3	3.4	5.5	7.7	4.7	7.5	10	12	14	19	—	—	—	—
145 VAC	Stall Ac Current	Io (Arms)	1.1	2.1	3.2	2.8	4	6	9.1	5.6	9.4	12.4	14	11	15	19.8	—	—	—
Drive's main voltage	Rated speed	N_n (Rpm)	4000	4000	4000	4000	4000	4000	4000	3000	3000	3000	3000	2000	2000	2000	—	—	—
	Stall DC Current	Io^{DC} (A _{DC})	1.4	2.7	4	3.5	5	7.7	11.7	7.2	11.5	15.9	18	14	19	—	—	—	—
95 VAC	Stall Ac Current	Io (Arms)	1.6	3.2	4.9	4	6.2	8	10	8.6	13.7	15.4	14	16.8	—	—	—	—	—
Drive's main voltage	Rated speed	N_n (Rpm)	4000	4000	4000	4000	4000	3500	3000	3000	3000	2500	2000	2000	—	—	—	—	—
	Stall DC Current	Io^{DC} (A _{DC})	2	4	6.2	5	8	10	13.3	11	17.5	19.7	18	—	—	—	—	—	—
44 VAC	Stall Ac Current	Io (Arms)	3.5	5.2	7.9	8	10	15	15	18.5	19.7	—	—	—	—	—	—	—	—
Drive's main voltage	Rated speed	N_n (Rpm)	4000	3000	3000	3000	3000	3000	2000	3000	2000	—	—	—	—	—	—	—	—
	Stall DC Current	Io^{DC} (A _{DC})	4.4	6.6	10	10	13	19	19	—	—	—	—	—	—	—	—	—	—
J	Rotor Inertia (std)	(Kg ^m ²)·10 ⁻⁴	0.08	0.16	0.24	0.4	0.6	1	1.4	1.8	2.8	3.8	4.2	9.5	13.5	18	22	27	31
JH	High Rotor Inertia (opt)	(Kg ^m ²)·10 ⁻⁴	—	—	—	—	3.9	4.3	—	14.9	15.9	12	—	45	49	53	58	62	—
JB	Brake Inertia	(Kg ^m ²)·10 ⁻⁴	0.045			0.122			0.37			1.15			4.0				
BRAKE stall torque ($\Delta t=100^\circ\text{C}$) (24 V _{DC} +6% -10%)			1.8 Nm (0.46 A _{DC})			4 Nm (0.5 A _{DC})			8 Nm (0.8 A _{DC})			18 Nm (1 A _{DC})			32 Nm (1.1 A _{DC})				
MODULE			2	4	6	2	3	5	7	3	5	7	8	2	3	4	5	6	7

★ AXOR IND. A COMPLETE LINE OF MOTORS AND SERVODRIVES ★

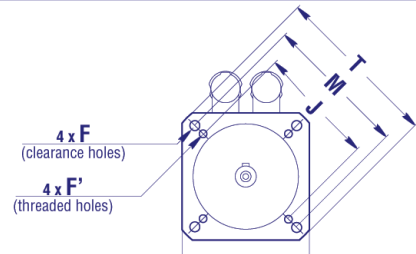
MECHANICAL DIMENSIONS All dimensions refer to both resolver and encoder versions



(*) For encoder "T" version
 (') For "Jh" motor version
 High Rotor Inertia



[°]: Weight is comprehensive of the resolver

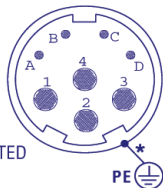


REFERENCES	L	L1	Bj6	D	Vp9	W	U	Nj6	M	F	J	F'	E	S	R	T	C	P	Z	WEIGHT°	WEIGHT° with BRAKE		
SERIES - Mo (Nm)	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg		
55 S	0.35	117 (127)*	158 (168)*	9	20	3	10.2	M3	x	40	63	5.5	—	—	2.5	7	□ 55	74	55	65	89	1.1	1.4
55 M	0.8	142 (152)*	183 (193)*	9	20	3	10.2	M3	x	40	63	5.5	—	—	2.5	7	□ 55	74	55	65	89	1.4	1.7
55 L	1.2	167 (177)*	208 (218)*	9	20	3	10.2	M3	x	40	63	5.5	—	—	2.5	7	□ 55	74	55	65	89	1.7	2.0
75 XS	1.1	141	190	11	23	4x18	12.5	M4	x	60	90	5.5	75	M5	8	□ 75	100	75	71	79	2.05	2.65	
75 S	1.6	156 (186)'	205	11	23	4x18	12.5	M4	x	60	90	5.5	75	M5	8	□ 75	100	75	71	79	2.5 (4)'	3.1	
75 M	2.7	186 (216)'	235	11	23	4x18	12.5	M4	x	60	90	5.5	75	M5	8	□ 75	100	75	71	79	3.4 (4.3)'	3.9	
75 L	3.8	216	265	14	30	5x25	16	M4	x	60	90	5.5	75	M5	8	□ 75	100	75	71	79	4.2	4.7	
100 S	3.2	183 (218)'	232	19	40	6	21.5	M6	x	95	115	9	—	—	3	12	□ 100	135	95	81	82	4.8 (6.5)'	5.5
100 M	5.2	218 (253)'	266	19	40	6	21.5	M6	x	95	115	9	—	—	3	12	□ 100	135	95	81	82	6 (7.8)'	6.7
100 L	7.5	253 (271)'	301	19	40	6	21.5	M6	x	95	115	9	—	—	3	12	□ 100	135	95	81	82	7.2 (8)'	7.9
100 XL	8.5	271	319	19	40	6	21.5	M6	x	95	115	9	—	—	3	12	□ 100	135	95	81	82	7.8	8.5
140 XS	9.5	185 (210)'	245	24	50	8	27	M8	x	130	165	11	—	—	3.5	13	□ 140	188	135	101	88	7 (9.5)'	9.4
140 S	13.5	210 (235)'	270	24	50	8	27	M8	x	130	165	11	—	—	3.5	13	□ 140	188	135	101	88	9.8 (12.3)'	12.2
140 M	17.8	235 (260)'	295	24	50	8	27	M8	x	130	165	11	—	—	3.5	13	□ 140	188	135	101	88	12.6 (15)'	15
140 L	22	260 (285)'	320	24	50	8	27	M8	x	130	165	11	—	—	3.5	13	□ 140	188	135	101	88	15.4 (18)'	18.5
140 XL	26	285 (310)'	345	24	50	8	27	M8	x	130	165	11	—	—	3.5	13	□ 140	188	135	101	88	18.2 (21)'	21.3
140 XXL	30	310	370	24	50	8	27	M8	x	130	165	11	—	—	3.5	13	□ 140	188	135	101	88	21	24.1

CONNECTION DATA Flying connector (solder side view) ^{*}: All shields (internal and external) tied to connector housing

POWER CONNECTOR

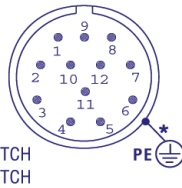
- 1 = U MOTOR
- 4 = V MOTOR
- 3 = W MOTOR
- 2 = GND ⊕ PE
- C = BRAKE (+)
- D = BRAKE (-)
- A - B = UNCONNECTED



(for both Encoder/Resolver versions)

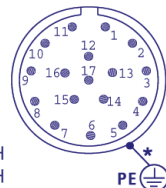
SIGNAL CONNECTOR "RESOLVER"

- 4 = COS (+)
- 8 = COS (-)
- 3 = SEN (+)
- 7 = SEN (-)
- 5 = EXC (+)
- 9 = EXC (-)
- 2 = THERMAL SWITCH
- 6 = THERMAL SWITCH
- 1 - 10 - 11 - 12 = UNCONNECTED



SIGNAL CONNECTOR "ENCODER"

- 1 = UNCONNECTED
- 3 = + 5V SUPPLY
- 4 = 0V SUPPLY
- 5 = CHA
- 6 = CHA (-)
- 7 = CHB
- 8 = CHB (-)
- 9 = CHZ
- 10 = CHZ (-)
- 11 = HALL A = U
- 12 = HALL A(-) = U(-)
- 13 = HALL B(-) = V(-)
- 14 = HALL B = V
- 15 = HALL C = W
- 16 = HALL C(-) = W(-)
- 17 = THERMAL SWITCH
- 2 = THERMAL SWITCH



ORDERING CODE **SSAX 55 M 40 / 220 - 000D00X S 0 T05 3 - SC000 R 1 XX**

Ex: **SERIES:** 55, 75, 100 and 140
SIZE: XS, S, M, L, XL, XXL
NOMINAL SPEED Ex: 40=4000 Rpm (see table on reverse)
NOMINAL SUPPLY DRIVE VOLTAGE: (see table on reverse)

FLANGE & SHAFT

MOUNTING FLANGE:
 000= standard (see above)
 001÷499= IEC metric dimension
 501÷999= Axor's internal code

MOUNTING HOLES:
 D= B5 flange with thru holes (standard)
 C= B14 flange with threaded holes (optional)

000D00X

= standard for all motors (see above)

SHAFT KEY:
 x= with key (standard)
 w= without key (optional)

SHAFT DIAMETER:
 00= standard (see above)
 01 ÷ 49= IEC metric diameter
 51 ÷ 99= Axor's internal code

THERMAL PROTECTION:
S= Thermal Switch N.C. (std)
P= PTC (optional)
N= w/out protection (opt)
 (std for 55 all with flying leads)

HOLDING BRAKE:
0= Without brake (std)
1= With brake (opt)

FEEDBACK PHASING:
3= 30° (std for encoder)
0= 0° (std for resolver)

CONNECTIONS ORIENTATION:
R= Rear exit (std for Ssax 55-75)
F= Front exit (std for Ssax 100-140)
T= Top exit (opt)

PROTECTION CLASS:
1= IP54 (std)
2= IP65 (opt)
3= IP65S w.shaft oil seal (opt)

MECHANICAL SPEC.: XX = (std)

REDUCERS
R= Reducer Presence
X= Not Present

ROTOR INERTIA
X= (std)
H= High Inertia (only for motors w/out brake) available for SSAX75 S-M, SSAX 100 S-M-L, SSAX 140 XS-S-M-L-XL

ELECTRICAL CONNECTIONS:

SC000= Screw Connectors (std)

P3E01= Flying leads (opt)

MOTOR SIDE
P= Cable glands

FEEDBACK
E= Encoder
R= Resolver

ASSEMBLY CODE

3= No connectors, static cables
4= SubD signal connector, static cables } 12 Arms max

LENGTH
.5=04= length (m)
 Ex: .5 = 0.5 m std (and only) length available for SSAX55
50÷99= Axor's internal use